Patent Claims

1. A method for improving a load distribution in a signaling network having a plurality of message transfer parts (MTP) and associated signaling line groups (LSx), composed of steps:

a) desired destination addresses (DPC) are defined;

b) n signaling line groups (LSx) which are to be used in m actual routes (CRy) to the destination addresses (DPC) are defined, and n × m associated route meters (C(LSx,y)) are initialized;

c) n setpoint meter readings (Csetp(LSx)) are calculated for each of the n signaling line groups (LSx);

d) n × m relative deviations (Delta Crel (LSx,y)) from the respective n setpoint meter readings (Csetp(LSx)) are calculated for each of the n × m route meters (C(LSx,y));

e) m route meters (C(LSx,y)) with the greatest relative deviations (Delta Crel (LSx,y)) are determined for different signaling line groups (LSx); and

f) m signaling line groups (LSx) are assigned to the m actual routes (CRy) in accordance with the determined m route meters (C(LSx,y)), and affected route meters (C(LSx,y)) are adapted.

2. The method as claimed in patent claim 1, characterized in that the step c) comprises the steps:

c1) n sums are calculated by adding the values of the m route meters (C(LSx,y)) for each signaling line group (LSx); and

c2) the n sums are divided by the number m of actual routes (CRy).

3. The method as claimed in patent claim 1 or 2, characterized in that the step d) comprises the steps:

d1) the n × m absolute deviations (DELTA C(LSx,y)) are calculated by subtracting the values of the n × m route meters (C(LSx,y)) from the values of the associated n setpoint meter readings (Csetp(LSx)); and

5   d2) the n × m relative deviations (Delta Crel (LSx,y)) are calculated by dividing the calculated absolute deviations (DELTA C(LSx,y)) by the values of the associated n setpoint meter readings (Csetp(LSx)).

4.   The method for improving a load distribution as 10   claimed in one of patent claims 1 to 3, characterized in that the step f) the adaptation of the affected route meters (C(LSx,y)) comprises the steps:

f1) the value of the determined route meter (C(LSx,y)) is incremented when the signaling line groups (LSx) are 15   defined for the first time, and

f2) the value of the route meter associated with the determined route meter (C(LSx,y)) is additionally decremented when the signaling line groups (LSx) are defined again.

20   5.   The method for improving a load distribution in a signaling network having a plurality of message transfer parts (MTP) and associated signaling line groups (LSx) comprising the steps:

a)   desired destination addresses (DPC) are defined;

25   b)   signaling line groups (LSz) which can be used in possible routes (PRz) to the destination addresses (DPC) instead of a failed or a newly available signaling line group are defined, and associated summation meters (C_Sum(LSx)) which represent a number 30   of signaling line groups in actual routes (CRxy) to all the defined destination addresses (DPC) are defined;

c)   each of the defined signaling line groups (LSx) is checked to determine whether it is available and/or permitted as an actual route (CRy) to the defined 35   destination addresses;

d)   the summation meters (C_Sum(LSx)) are read out for all the defined signaling line groups if the result in step c) is positive;

e)   the signaling line groups (LSx) for the respective destination addresses whose associated summation meters (C_Sum(LSx)) have the smallest value are selected;

f)   the selected signaling line groups (LSx) are assigned to the actual routes (CRy) for the respective destination addresses; and

g)   the values of the affected summation meters (C_Sum(LSx)) are adapted.

6.   The method as claimed in patent claim 5, characterized in that in step g) the adaptation of the affected summation meters (C_Sum(LSx)) constitute an incrementation of the summation meter with the smallest sum and a decrementation of the summation meter for the failed or the newly available signaling line group.

7.   A method for improving a load distribution in a signaling network having a plurality of message transfer parts (MTP) and associated signaling line groups (LSx) composed of the combination of the method as claimed in patent claim 5 or 6 for selecting an actual route, and the method as claimed in one of patent claims 1 to 4 for setting up an actual route.